





SAVING THE TROPICAL FORESTS WITH







ONEWOOD Timber Trellis on exterior steel structure

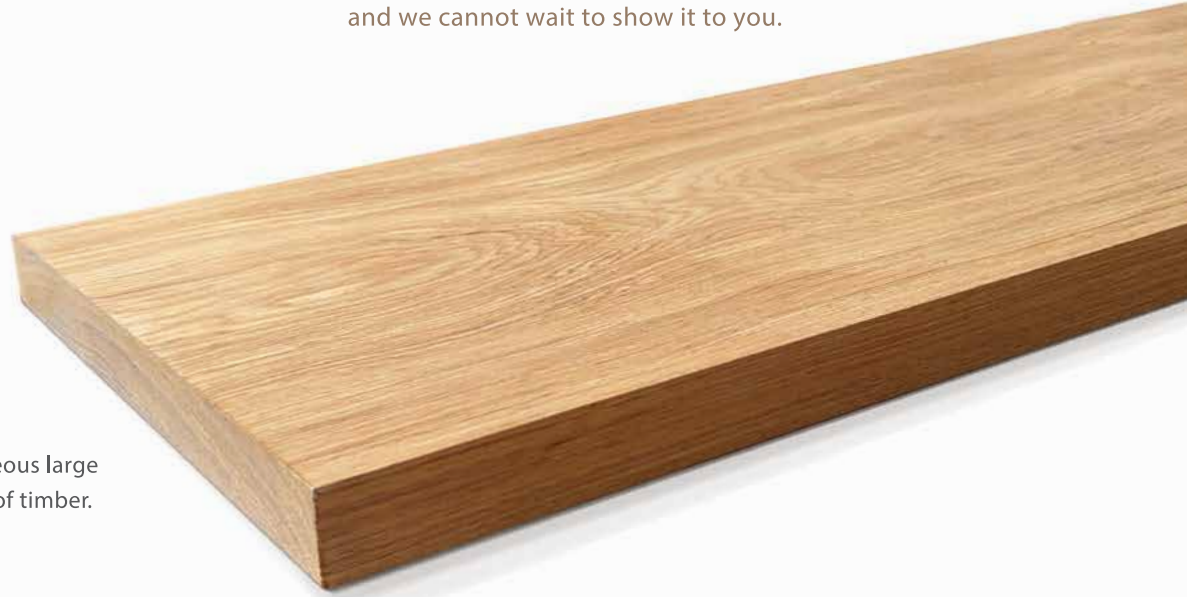
## ABOUT ONEWOOD



ONEWOOD is a breed of timber called, Homogeneous Reconstituted Timber (HRT). It is made by upcycling wood fibers from fast-growing plantation trees to form a big block of hardwood equivalent material that looks and feels exactly like natural hardwood.

Each block of ONEWOOD can be processed by any carpentry or woodworking tools and converted to almost any timber product that a hardwood can provide while maintaining the look and feel of natural wood. The possibilities are immense and we cannot wait to show it to you.

ONEWOOD is manufactured into homogeneous large blocks which imitates the natural year ring of timber.



### REVOLUTIONARY

Created to become structurally homogeneous, ONEWOOD works well with basic carpentry tools and woodworking methods – just like natural hardwood. Every solid piece of ONEWOOD can be transformed into any timber product without compromising on its structure, strength and even grain patterns. This unique property of homogeneity also resulted in other distinguished properties such as termite resistance and dimensional stability, all of which contributes to ONEWOOD's durability.

A considerable alternative to replace natural hardwood, this product can revolutionize the built environment and become an ideal material for developers, architects, interior designers and furniture makers.

### SUSTAINABLE

Every fiber from ONEWOOD is sourced from fast growing and sustainable plantations. Furthermore, its homogeneous quality gives ONEWOOD users the opportunity to refresh and reuse this product for other possible timber works.

### ECO-FRIENDLY

The determination to curb deforestation was the driving force in the development ONEWOOD. It was imminent to the producers to conceptualize and deliver a green product similar to natural wood and in due course add another solution to mitigate global warming, making the world a better place.

Beyond sourcing for eco-friendly raw materials, ONEWOOD also adopts environmentally friendly production processes. It has been awarded the Singapore Green Label Scheme and Singapore Green Building Product certification.



ONEWOOD can be produced as FSC™ Certified on request.



Every piece of ONEWOOD can be transformed into any timber product without compromising on its structure, strength and even grain patterns.



## newood PROPERTIES



### Homogeneous Property

ONEWOOD is fabricated to be homogeneous in nature. This unique feature allows ONEWOOD to have intrinsic properties through out each and every block of timber, accompanied with its distinctive yet natural wood grain patterns.



### Eco-friendly & Reusable

ONEWOOD's manufacturing processes are eco-friendly. Being homogeneous, it can be refurbished and reused for other uses.



### Sustainable

ONEWOOD is made using natural fibers from fast growing plantation trees and upcycled into hardwood blocks.



### Perfect for Coating

ONEWOOD is compatible with Standard Polyurethane Coating (PU), Ultra-violet Curable Coating (UV), Water-based and Oil-based finishes.



### Easily Processed

ONEWOOD can be processed through the use of conventional wood working equipment.



### Water Resistant

ONEWOOD is naturally water resistant and is suitable for bathroom and kitchen area usage.



### Dimensionally Stable

ONEWOOD undergoes high pressure and high temperature processes which allows it to be structurally stable. In comparison to tropical hardwood, ONEWOOD has better outdoor durability and outstanding dimensional stability.



### Strong Structure & Durability

ONEWOOD has properties equivalent or better than tropical hardwood. ONEWOOD has achieved Durability Class 1 under the EN 113-2 and EN 350 Standards.



### Low Flame Spread

ONEWOOD's fiber has been impregnated with fire retardant additives giving it its low flame spread property. ONEWOOD can achieve the following test standards.

| Fire Test Standard | Results                                   |
|--------------------|---|
| BS 476 Part 7      | Class 1 Surface Spread of Flame           |
| EN 13501-1         | Class B-s1,d0 / Class B <sub>f1</sub> -s1 |

All fire rated ONEWOOD products available on request.



### Termite Resistant

ONEWOOD is less susceptible to termite infestation as compared to natural timber.

*\*ONEWOOD Appendix with specific details of the properties above is available on request.*

## Product Specifications

Tested according to ASTM D 1037 standards for evaluating properties of wood-based fiber, ONEWOOD can be placed on par with natural tropical hardwoods like Balau, Chengal, Teak and Ironwood.

| Property                       | Results (Standard)              | Results (Metric)             |
|--------------------------------|---------------------------------|------------------------------|
| Density                        | 56.2 - 62.4 lbs/ft <sup>3</sup> | 900 - 1000 kg/m <sup>3</sup> |
| Maximum Crushing Strength      | 10,297 psi                      | 71.0 MPa                     |
| Shear Strength                 | 967 psi                         | 6.7 MPa                      |
| Work to Maximum Load           | 7.72 lbf in/in <sup>3</sup>     | 0.05 N mm/mm <sup>3</sup>    |
| Janka Hardness                 | 1,583 lbf                       | 7,042 N                      |
| Bending Strength (MOR)         | 13,714 psi                      | 94,557 kPa                   |
| Strength Retention after Aging | 100.0%                          | 100.0%                       |
| Modulus of Elasticity (MOE)    | 1,989,797 psi                   | 13,719,167 kPa               |

| Screw Withdrawal                | Results (Standard) | Results (Metric) |
|---------------------------------|--------------------|------------------|
| Face                            | 646 lbf            | 2,875 N          |
| Edge Perpendicular to Long Side | 672 lbf            | 2,991 N          |
| Edge Parallel to Long Side      | 513 lbf            | 2,284 N          |

| Dimensional Stability<br>50% – 90% R.H. | Results (Standard) | Results (Metric) |
|---|--------------------|------------------|
| Length Expansion                        | 0.07%              | 0.07%            |
| Width Expansion                         | 0.204%             | 0.204%           |
| Thickness Swell                         | 0.180%             | 0.180%           |

## Tonality and Grain Variation

ONEWOOD has high natural wood fiber content which results in tonality differences within each piece, and between different pieces of ONEWOOD. The grains of ONEWOOD differ in every piece / batch just like natural timber. Oxidation may occur slowly over time and slightly darken the colour of ONEWOOD. There will be tonality difference between new pieces or freshly sanded down ONEWOOD in comparison with existing pieces of ONEWOOD.

## Outdoor Weathering

ONEWOOD weathers naturally outdoors similar to natural timber. The surface of ONEWOOD turns into an elegant aging grey patina when exposed outdoors. Other typical characteristics of outdoor weathering includes surface checks. These features do not compromise the strength, durability and performance of ONEWOOD.

The rate of weathering effects on ONEWOOD varies depending on the amount of exposure to the elements such as UV rays and rain / moisture. Typically, full exposure to sun and rain weathers ONEWOOD faster than partially sheltered areas. When preferred, application of exterior coating on ONEWOOD's surface can delay the effects of outdoor weathering.

\*For more information on weathering effects of ONEWOOD, refer to our technical data sheet.

### Additional Product Specifications

Tested in accordance with European Standard DIN EN 408 (Timber structures - Structural timber and glued laminated timber - Determination of some physical and mechanical properties) and DIN EN 13183-1 (Moisture content of a piece of sawn timber)

| Property                    | Results (Average)              | (Minimum/Maximum)               |
|-----------------------------|--------------------------------|---------------------------------|
| Moisture Content            | 9.50%                          | 10.1% (max.)                    |
| Bending Strength (Flatwise) | 90.6 N/mm <sup>2</sup>         | 66.0 N/mm <sup>2</sup> (min.)   |
| Bending Strength (Edgewise) | 98.1 N/mm <sup>2</sup>         | 91.1 N/mm <sup>2</sup> (min.)   |
| Bending E-module (Flatwise) | 19,700 N/mm <sup>2</sup>       | 16,600 N/mm <sup>2</sup> (min.) |
| Bending E-module (Edgewise) | 18,700 N/mm <sup>2</sup>       | 17,000 N/mm <sup>2</sup> (min.) |
| Compressive Strength        | 82.0 N/mm <sup>2</sup>         | 72.7 N/mm <sup>2</sup> (min.)   |
| Compressive E-module        | 14,700 N/mm <sup>2</sup>       | 13,500 N/mm <sup>2</sup> (min.) |
| Tensile Strength            | 83.2 N/mm <sup>2</sup>         | 64.8 N/mm <sup>2</sup> (min.)   |
| Tensile E-module            | 15,800 N/mm <sup>2</sup>       | 15,300 N/mm <sup>2</sup> (min.) |
| Shear Strength              | 7.9 N/mm <sup>2</sup>          | 6.0 N/mm <sup>2</sup> (min.)    |
| Shear E-module              | 510 N/mm <sup>2</sup>          | 400 N/mm <sup>2</sup> (min.)    |
| Formaldehyde Emission **    | 0.1 mg HCHO/(m <sup>2</sup> h) |                                 |

\*\*According to DIN EN ISO 12460-3, the product falls well below specified value of 3.5 mg/(m<sup>2</sup>h) based on DIBt Guideline 100.

### Refurbishment

ONEWOOD can be easily sanded down to reveal a fresh layer of timber. The natural wood grains will still be visible after sanding down due to its homogeneous nature. After sanding, other treatments such as coating can be done if desired.



Weathered ONEWOOD surface

Weathered ONEWOOD surface turns in silver aging grey appearance upon exposure to constant outdoor weathering.



Sanding down

Weathered ONEWOOD can be sanded down using sandpaper or woodworking tools.



Refreshed ONEWOOD surface

After light sanding, ONEWOOD surface is refreshed to its original state. Natural wood grains are still visible due to its homogeneous property.



Scan to view video





ONEWOOD Timber at pool side area





## INTERIOR FLOORING

ONEWOOD Interior Flooring has timeless, beautiful wide ONEWOOD timber planks that can bring a luxurious feel to every interior space.

As ONEWOOD has been awarded with the Green Label and Singapore Green Building Product accreditation, it is a suitable product for interior usage.



## OUTDOOR DECKING

ONEWOOD Outdoor Decking compliments every landscaping space with its natural characteristics of wood grains while offering outdoor access for everyone to appreciate its surroundings.



Flooring is an important component of every interior space and timber has always been a popular choice for flooring due to its natural grains and colour.


ONEWOOD flooring is a unique product that excels in durability and dimensional stability as compared to natural timber. Its natural wood grains add warmth to your living space.


**ONEWOOD Flooring Properties**

|  |   |
|--|---|
|  Termite Resistant |  Water Resistant       |
|  Fire Resistant    |  Suitable for Interior |

\* Refer to Pg 4 for available fire test standard compliance.

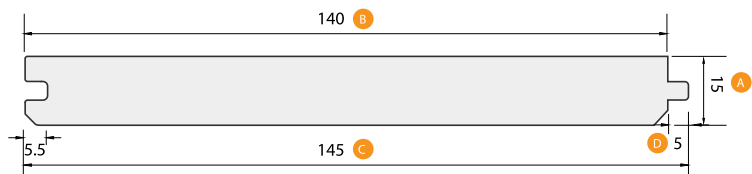
**Features**

 **Suitable for High Traffic**  
 ONEWOOD is a product with high density and hence resistant to areas with high traffic. Together with compatible flooring finishes, the durability of ONEWOOD Flooring is enhanced, suitable for commercial places like offices and shopping centres.

 **Reuse and Refurbish**  
 ONEWOOD Flooring's homogeneous property enables resanding to reveal a fresh layer of beautiful wood grains that can be recoated for maintenance or to achieve a new look to complement your new design.

**Standard Dimensions**

| Thickness mm | Surface mm | Width mm | Tongue mm |
|--------------|------------|----------|-----------|
| A            | B          | C        | D         |
| 12           | 140        | 145      | 5         |
| 15           | 140        | 145      | 5         |
| 18           | 140        | 145      | 5         |



Section – Typical Tongue and Groove Profile

ONEWOOD Flooring is available in wide dimensions up to 210 mm width.



ONEWOOD Interior Flooring in Residential

**Wear Protection**

For areas where high traffic is expected, ONEWOOD Flooring can be coated with an additional layer of flooring finish for much improved wear, chemical and moisture resistance to your floor.

**Installation**

ONEWOOD Solid Flooring can be installed by laying on screed / concrete, batten and plywood base.

ONEWOOD Flooring Finishes can be applied as

- i. On site sand & varnish
- ii. Prefinished UV coated (MOQ required)

For technical details and drawings, kindly contact us for information.



## Flooring Finishes

ONEWOOD Flooring can be coated with the following interior finishes. These finishes add resistance against wear and moisture on top of ONEWOOD's high durability and water resistant property.



Natural



Clear



Deep Birch



Golden Teak



Matured Teak



Dark Walnut



Ebony



ONEWOOD Interior Flooring in Residential



ONEWOOD Interior Flooring in Residential



ONEWOOD Decking at Poolside, Sentosa

## newood DECKING

ONEWOOD Decking system consists of solid homogeneous planks of reconstituted timber which enables resanding and refurbishing works after years of wear. It has minimal shrinkage and expansion when exposed to environmental change. Its fabrication processes allow better dimensional stability as compared to natural hardwood products.

ONEWOOD Decking paired with PVC clip fastening system conceal screws for a neater outlook.

### Raised Decking / Outdoor Flooring System

When required, our decking system is compatible with high strength height-adjustable and slope correctable pedestals for raised decking or flooring conditions. It is also available in full Class 1 fire rated system including the pedestal supports.

### Standard Dimensions

| Thickness<br>mm | Width<br>mm | Length<br>mm       |
|-----------------|-------------|--------------------|
| A               | B           |                    |
| 22              | 148         | 2500 and / or 3000 |
| 24              | 148         |                    |
| 20              | 95          |                    |

For enquiry on customised decking systems, please contact us.

### ONEWOOD Decking Properties



Termite Resistant



Water Resistant



Fire Resistant\*

\* Refer to Pg 4 for available fire test standard compliance.

### Features



#### Suitable for High Traffic

ONEWOOD is a product with high density and hence resistant to areas with high traffic. Together with compatible decking finishes, the durability of ONEWOOD is enhanced and makes it suitable for outdoor commercial areas.



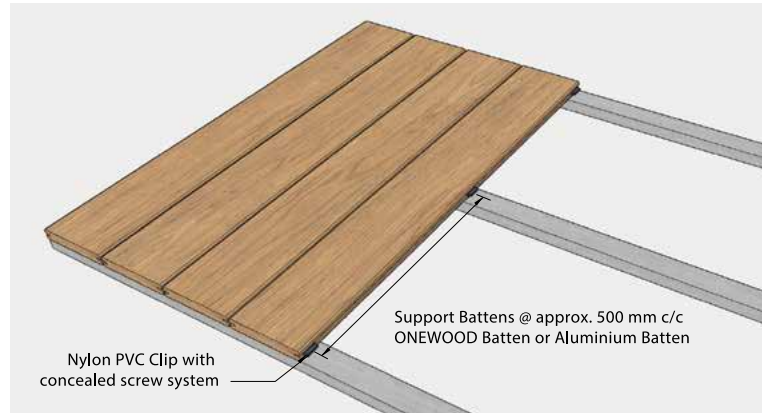
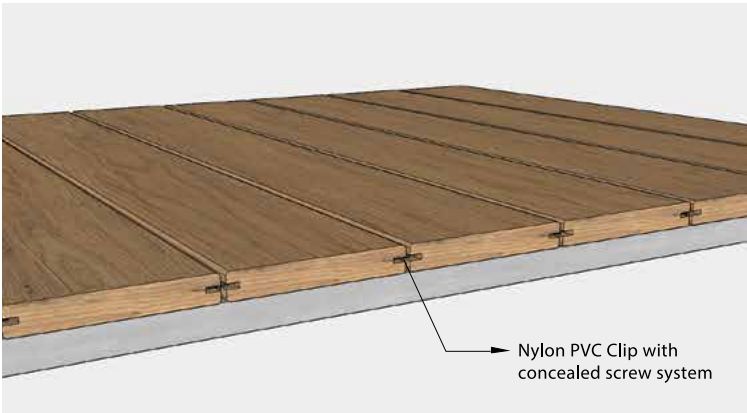
#### Reuse and Refurbish

ONEWOOD Decking's homogeneous property enables resanding to reveal a fresh layer of beautiful wood grains that can be recoated for maintenance or to achieve a new look to complement your new design.

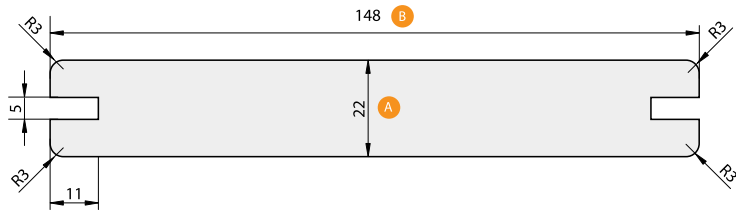
For outdoor weathering properties, please refer to page 5 of catalogue.



### Typical ONEWOOD Decking System



### Typical ONEWOOD Decking Profile



Section – Typical ONEWOOD Decking Profile

### ONEWOOD Decking Finishes

ONEWOOD Decking can be coated with the following exterior finishes. These finishes add resistance against wear and outdoor weathering on top of ONEWOOD's high durability and water resistant property.



Natural



Clear



Deep Birch



Golden Teak



Matured Teak



Dark Walnut



Ebony



ONEWOOD Staircase Tread and Riser

## newood STAIRCASE TREAD

ONEWOOD Staircase Tread is available in planks of substantial width and thickness. Every tread of your staircase can be furnished to its exact dimensions without the need of joining multiple planks to form your staircase treads.

Create a seamless luxurious living area with ONEWOOD Staircase Treads, ONEWOOD Flooring and ONEWOOD Handrails.

### Standard Dimensions

| Thickness<br>mm | Width<br>mm | Length<br>mm |
|-----------------|-------------|--------------|
| 22              | Up to 300   | 1100         |
| 24              | Up to 300   | 1100         |

For enquiry on staircase treads with customised sizes, please contact us.

### Applications

- Staircase tread & riser
- Staircase landings
- Spiral staircase options available

### ONEWOOD Staircase Tread Properties



Termite Resistant



Water Resistant



Fire Resistant\*



Suitable for Interior



Premium Size

\* Refer to Pg 4 for available fire test standard compliance.

### Features



Suitable for High Traffic

ONEWOOD is a product with high density and hence resistant to areas with high traffic. Together with compatible finishes, the durability of ONEWOOD is enhanced and makes it suitable for home and commercial places.



Reuse and Refurbish

ONEWOOD's homogeneous property enables resanding to reveal a fresh layer of beautiful wood grains that can be recoated for maintenance or to achieve a new look to complement your new design.





ONEWOOD Curved Handrail and ONEWOOD Staircase  
Tread at Spiral Staircase





*Custom Curved Profile ONEWOOD Handrail*










ONEWOOD Handrail is available in various profiles to your specific design needs. Being homogeneous, ONEWOOD can be milled into beautiful profiles.


As ONEWOOD is available in premium sizes, we are able to achieve customised and curved handrail profiles.

**ONEWOOD Handrail Properties**


-  Termite Resistant
-  Water Resistant
-  Fire Resistant\*
-  Suitable for Interior
-  Custom Curved Profile Available


\* Refer to Pg 4 for available fire test standard compliance.


**ONEWOOD Handrail Profiles**

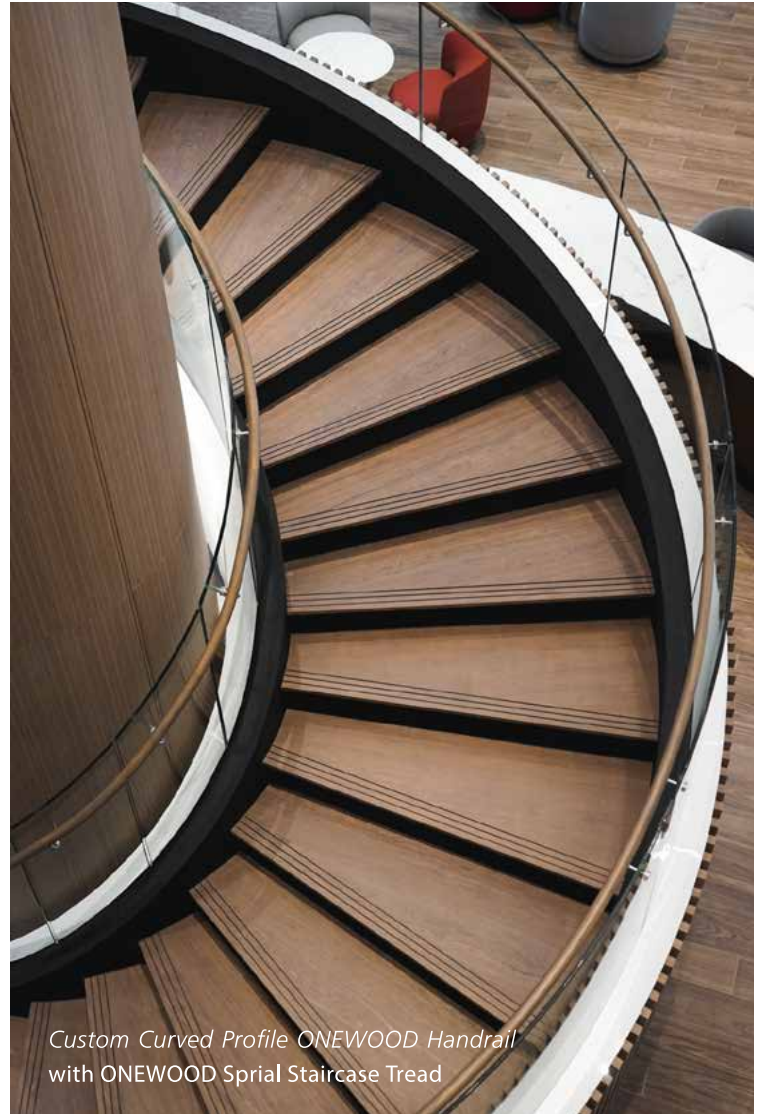
| Typical Profiles  | Dimensions (t x w) mm | Length mm   | Curved Option |
|---|-----------------------|-------------|---------------|
| Square / Rectangular<br> | 32 x 32               | 1220 / 2450 | Available     |
|   | 45 x 45               |             |               |
|   | 50 x 50               |             |               |

|  |           |             |           |
|--|-----------|-------------|-----------|
| Round<br> | 32 mm Dia | 1220 / 2450 | Available |
|  | 38 mm Dia |             |           |
|  | 40 mm Dia |             |           |
|  | 45 mm Dia |             |           |
|  | 50 mm Dia |             |           |

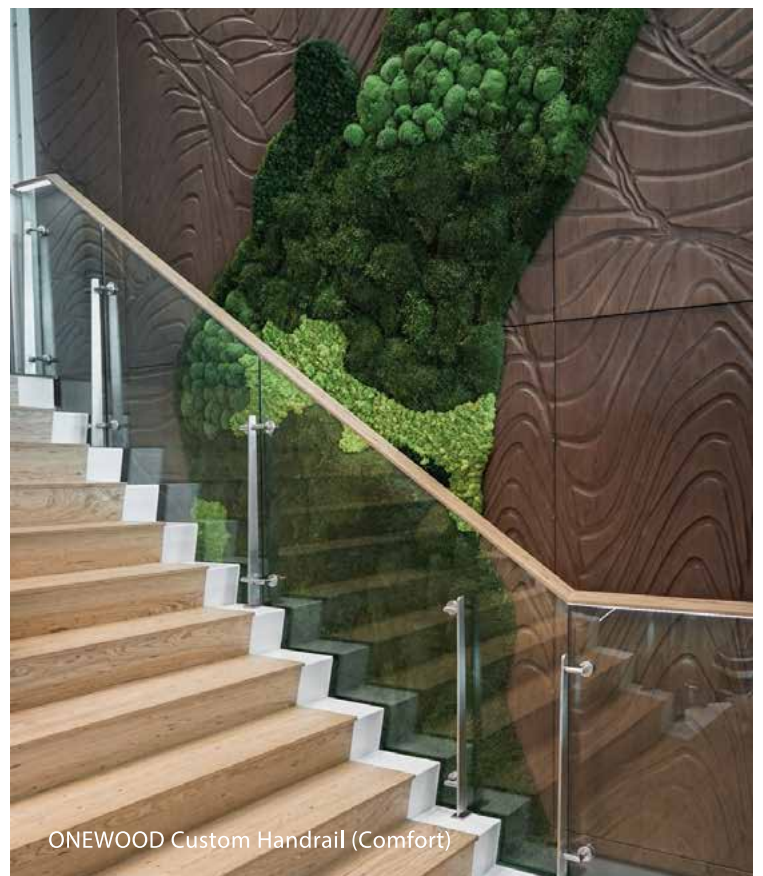
| Special Profiles   | Dimensions (t x w) mm | Length mm   | Curved Option |
|--|-----------------------|-------------|---------------|
| Raffles<br> | 50 x 100              | 1220 / 2450 | Available     |

|   |         |             |           |
|---|---------|-------------|-----------|
| Groove<br> | 30 x 50 | 1220 / 2450 | Available |
|---|---------|-------------|-----------|

|  |          |             |           |
|--|----------|-------------|-----------|
| Rifle<br> | 60 x 117 | 1220 / 2450 | Available |
|--|----------|-------------|-----------|



Custom Curved Profile ONEWOOD Handrail with ONEWOOD Sprial Staircase Tread



ONEWOOD Custom Handrail (Comfort)